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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,801	06/22/2006	Kouji Hayashi	90057/JLT	4890

1333	7590	07/11/2007
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EXAMINER	
THOMPSON RUMMEL, PONDER N	

ART UNIT	PAPER NUMBER
1753	

MAIL DATE	DELIVERY MODE
07/11/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/583,801

**Applicant(s)**

HAYASHI ET AL.

**Examiner**

Ponder N. Thompson-Rummel

**Art Unit**

1709

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/22/2006</u> | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION*****Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

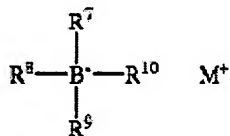
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 7,8, 10, 11, 13, 17, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoshi et al. (US 2002/0177074).

With respect to claim 1, 3, 7,8, 10, 11, 13, 17, and 18, Hoshi et al. discloses a planographic printing plate precursor comprising a photosensitive layer on a support wherein the photosensitive layer comprises:

- A. An infrared absorber (paragraph [0027]);
- B. An organic boron compound that is a radical polymerization initiator when used in combination with an infrared absorber that follows formula (4) (paragraph [0046])

General Formula (4)

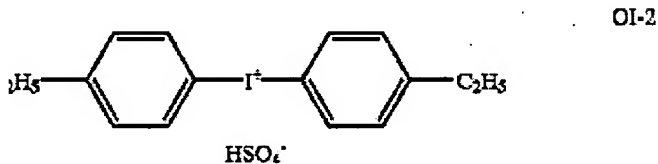


wherein R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, and R<sup>10</sup> represents an aliphatic group, aromatic group a heterocyclic group or –Si(R<sup>11</sup>)(R<sup>12</sup>)(R<sup>13</sup>) where R<sup>11</sup>, R<sup>12</sup>, and R<sup>13</sup> independently represents an aliphatic or aromatic group (paragraph

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[0047]) where the aliphatic groups of  $R^7$ - $R^{13}$  include an alkyl group, alkenyl group, an alkynyl group, and aralkyl group (paragraph [0048]) and  $M^+$  represents an organic cationic compound (paragraph [0053]) such as quaternary ammonium cation (paragraph [0054]);

- C. An onium salt (paragraphs [0039] and [0040]) that has an aromatic ring having a substituent as in formula OI-2 (paragraph [0045]);



- D. A radical polymerizing compound having at least one ethylenic unsaturated double bond (paragraph [0059]); and
- E. A binder resin that contains a carboxyl group (paragraphs [0081] and [0082]).

With respect to claim 19, Hoshi et al. also discloses a planographic printing method of imagewise exposing the planographic printing plate precursor of (A) – (E) with an infrared laser and then developing the photosensitive laser and removing the unexposed areas (paragraph [0125]).

***Claim Rejections - 35 USC § 103***

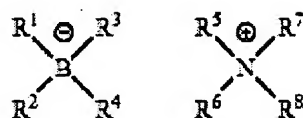
1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1– 19 are rejected under 35 U.S.C. 103(a) as being obvious over Sakurai et al. (WO2004/114019 wherein citations are from US 2006/0251987 equivalent) in view of Ishihara et al. (US 2005/0020710).

With regards to claims 1- 18, Sukurai et al discloses a negative-working photosensitive composition comprising:

- A. an infrared absorber (abstract and paragraphs [0015] and [0033]) that is a near infrared absorbing cationic dye represented by formula (I) (paragraph [0019] wherein  $D^+$  represents a cationic dye have an absorption within a near infrared range and  $A^-$  represents an anion (paragraph [0019]);
- B. an organic boron compound which functions as a polymerization initiator by using in combination with the infrared absorber (abstract and paragraph [0016] ) in which the organic boron is an ammonium salt of a quaternary boron anion represented by formula (2) (paragraph [0020])



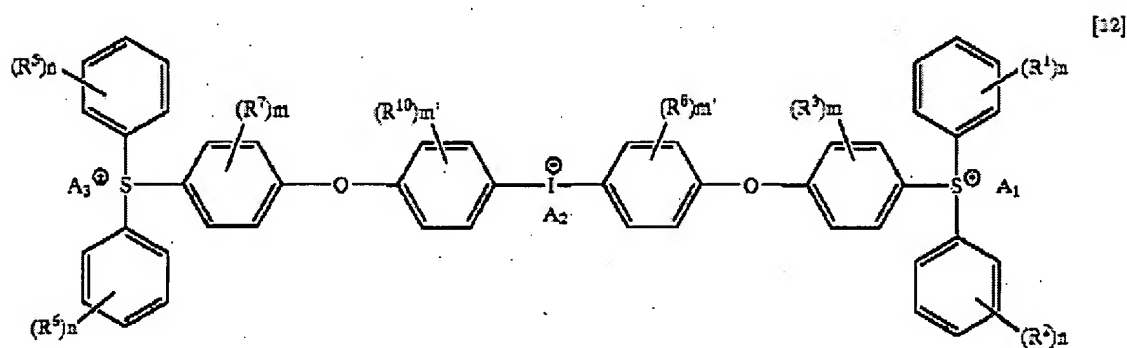
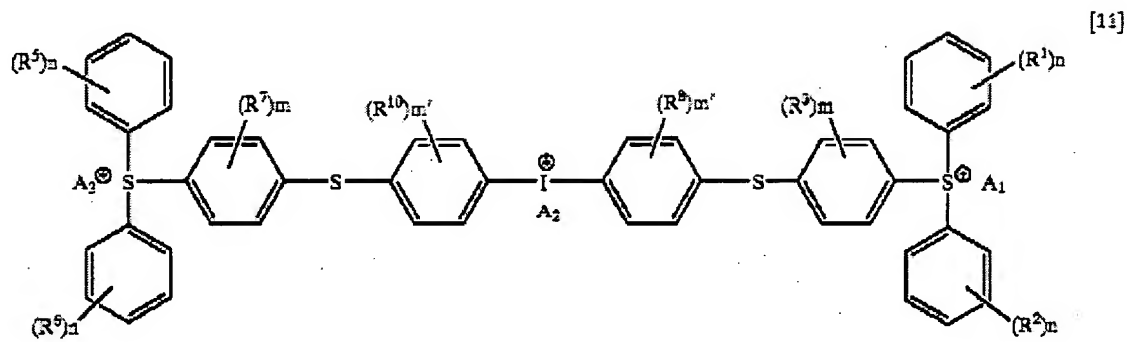
(2)

wherein  $R^1$ ,  $R^2$ ,  $R^3$  and  $R^4$  each represent an alkyl group, an aryl group, an alkaryl group, an alkynyl group, and alicyclic group or unsaturated heterocyclic group where at least  $R^1$ - $R^4$  is an alkyl group having 1 to 8 carbons and where  $R^5$ - $R^8$  represents a hydrogen atom, an alkyl group, and aryl group, and allyl group, an aralkyl group, etc (paragraph [0020]);

- C. a compound that has polymerizable unsaturated groups (paragraphs [0017], [0043] and [0044]); and
- D. an alkali-soluble binder resin (paragraphs [0022] and [0052]) that comprises a copolymer with an aromatic hydroxyl group (paragraph [0051]).

The negative-working photosensitive lithographic printing plate comprises a support and a photosensitive layer containing the negative-working photosensitive composition of (A) – (C) formed on the support (abstract and paragraph [0067]). Also, the organoboron compound may be used in combination with known polymerization initiators used in the radical polymerization such as triazines (paragraph [0042]). However, Sakurai does not teach the use of an onium salt within the composition of the negative-working photosensitive composition.

Ishihara et al. discloses hybrid type onium salts of formulas [11] and [12] (paragraphs [0093] and [0094]) having an iodonium salt ( $I^+$ ), a sulfonium salt ( $S^+$ ), and an aromatic ring having a substituent in the molecule



wherein  $R^{10}$  is a halogen atom, an alkyl group, a haloalkyl group, an aryl group, an alkoxy group, an aryloxy group, an alkylthio group, an arylthio group or an amino group which may be substituted;  $R^1$  to  $R^3$  each independently a halogen atom, an alkyl group, a haloalkyl group, an aryl group, an alkoxy group, an aryloxy group, an alkylthio group, an arylthio group or an amino group which maybe substituted (paragraph [0011]),  $R^5$  to  $R^7$  each independently a halogen atom, an alkyl group, a haloalkyl group, an aryl group, an alkoxy group, an aryloxy group, an alkylthio group, an arylthio group or an amino group which maybe substituted (paragraph [0011]),  $R^8$ ,  $Q_1$  and  $Q_2$  is a direct-linkage, an oxygen atom, a sulfur atom or a lower alkylene chain,  $A_1$  to  $A_3$ , is a counter anion (paragraph [0012]);  $m$  and  $m'$  is an integer of 0 to 4 (paragraph [0012]); and  $n$ 's are each independently an integer of 0 to 5 (paragraph [0012]). The onium salts are useful

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as photopolymerization initiators and acid generators for a chemically amplified resist (paragraph [0267]). Because of the plurality of counter anions in the molecule, the onium salt provides the advantage of improved acid generation efficiency by irradiation. The use of the onium salt as a cationic photopolymerization initiator can also form a polymer with high hardness and resists with high sensitivity.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the hybrid type onium salts as disclosed by Ishihara in combination with the organic boron in the negative working photosensitive composition of Sakurai et al. to improve acid generation efficiency by irradiation and to increase the hardness and sensitivity of the resist composition.

With respect to claim 19, Sakurai et al. further discloses a method of forming a lithographic printing plate in which the plate is written with images in the photosensitive layer using laser light or irradiation (paragraph [0087]) and by developing the image to remove the non-image area (paragraph [0087]).

### ***Conclusion***

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ponder N. Thompson-Rummel whose telephone number is 571-272-9816. The examiner can normally be reached on Monday-Friday 7:30 am - 5:00 pm EST.

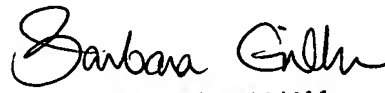


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ptr  
P.T.B.

  
BARBARA GILLIAM  
PRIMARY EXAMINER